CLAIMS

What is claimed is:

1.   1.   A multiple wavelength output light source, comprising:

2.   a laser device having a plurality of output wavelengths;

3.   a demultiplexer for separating the plurality of output wavelengths; and

4.   a plurality of modulators associated with and configured to modulate each

5.   wavelength.

1.   2.   The light source of claim 1, wherein the laser device, the plurality of

2.   modulators and the demultiplexer are fabricated on one substrate and comprise one

3.   module.

1.   3.   The light source of claim 1, wherein the plurality of output wavelengths

2.   represents the output spectrum of the laser device.

1.   4.   The light source of claim 1, further comprising an optical filter

2.   configured to receive the plurality of output wavelengths and modify each wavelength

3.   to a predetermined profile.

1.   5.   The light source of claim 1, wherein the laser device is a Fabry-Perot

2.   laser.

6.   The light source of claim 1, further comprising a combining device configured to combine each of the plurality of modulated wavelengths onto a single optical fiber.

7.   The light source of claim 1, wherein the laser device has a spectral distribution including distinct peaks, each of the output wavelengths corresponding to a different one of the peaks.

8.   A method for forming a broad spectrum modulated laser output, the method comprising:

   providing a laser device having a plurality of output wavelengths;

   separating the plurality of output wavelengths; and

   modulating each of the plurality of output wavelengths.

9.   The method of claim 8, further comprising forming the laser device and performing the modulating step and the separating step on a single module.

10.   The method of claim 8, wherein the plurality of output wavelengths represents the output spectrum of the laser device.

11.   The method of claim 8, further comprising modifying each wavelength to a predetermined profile.

12.   The method of claim 8, wherein the laser device is a Fabry-Perot laser.

1   13.   The method of claim 8, further comprising combining each of the

2   plurality of modulated output wavelengths onto a single optical fiber.

1   14.   A method for forming a broad spectrum modulated laser output, the

2   method comprising the steps of:

3   providing a Fabry-Perot laser device having a plurality of outputs, each output

4   at a different spectral location;

5   separating the plurality of outputs; and

6   modulating each of the plurality of outputs with communication information

7   resulting in a plurality of modulated outputs.

1   15.   The method of claim 14, further comprising forming the Fabry-Perot

2   laser device and performing the modulating step and the separating step on a single

3   module.

1   16.   The method of claim 14, wherein the plurality of output wavelengths

2   represents the output spectrum of the laser device.

1   17.   The method of claim 14, further comprising modifying each wavelength

2   to a predetermined profile.

1   18.   The method of claim 14, further comprising combining each of the

2   plurality of modulated outputs onto a single optical fiber.

1   19.   An optical system comprising:

2   a laser that outputs plural wavelengths; and

3   modulator means for modulating each of the wavelengths independently.

1   20.   The apparatus of claim 19, further comprising separator means for spatially separating the plural wavelengths upstream of their modulation by the modulator means.

1   21.   The apparatus of claim 20, further comprising combiner means for spatially combining the wavelengths as modulated by the modulator means.

1   22.   The apparatus of claim 19, wherein the laser has a spectral distribution including distinct peaks, each of the wavelengths corresponding to a different one of the peaks.

1   23.   An optical method comprising:

2   operating a laser to provide an output characterized by plural wavelengths; and

3   modulating the plural wavelengths independently.

1   24.   The method of claim 23, further comprising separating the plural wavelengths upstream of the modulating.

1   25.   The method of claim 24, further comprising combining the wavelengths downstream of the modulating.

1   26.   The method of claim 23, wherein the wavelengths correspond to

2   distinct peaks in the spectral distribution of the output of the laser.